CLAIMS

1.   A multiple image forming position deviation detecting device, wherein, in order to detect the deviations of transfer positions of images in forming a multiple image, multiple image forming position deviation detection patterns, formed on a surface of an object to be detected, are detected by a photodetecting means having a photosensitive region, in which pixels are arrayed two-dimensionally,

the multiple image position deviation detecting device wherein in the photodetecting means,

a single pixel is arranged by adjacently positioning within the same plane a plurality of photosensitive portions, each outputting a current in accordance with the intensity of light made incident thereon, and

in each plurality of pixels that are aligned in a first direction of the two-dimensional array, one photosensitive portion among the plurality of photosensitive portions making up each corresponding pixel is electrically connected to the same photosensitive portion of each of the other corresponding pixels, and

in each plurality of pixels that are aligned in a second direction of the two-dimensional array, another photosensitive portion among the plurality of photosensitive portions making up each corresponding pixel is electrically connected to the same photosensitive portion of each of the other corresponding pixels.

2.   The multiple forming position deviation detecting device according to Claim 1, wherein the photodetecting means comprises:

a first signal processing circuit, reading the output from each the

photosensitive portions that are electrically connected across each of the plurality of pixels aligned in the first direction to detect the luminance profile in the second direction of the two-dimensional array based on these outputs, and

5   a second signal processing circuit, reading the output from each of the photosensitive portions that are electrically connected across each the plurality of pixels aligned in the second direction to detect the luminance profile in the first direction of the two-dimensional array based on these outputs.

10   3.   An image density detecting device, wherein, in order to detect the densities of an image, image density detection patterns, formed on a surface of an object to be detected, are detected by a photodetecting means having a photosensitive region, in which pixels are arrayed two-dimensionally,

15   the image density detecting device wherein in the photodetecting means,

          a single pixel is arranged by adjacently positioning within the same plane a plurality of photosensitive portions, each outputting a current in accordance with the intensity of light made incident thereon,

20   and

          in each plurality of pixels that are aligned in a first direction of the two-dimensional array, one photosensitive portion among the plurality of photosensitive portions making up each corresponding pixel is electrically connected to the same photosensitive portion of each of

25   the other corresponding pixels, and

          in each plurality of pixels that are aligned in a second direction

41

of the two-dimensional array, another photosensitive portion among the plurality of photosensitive portions making up each corresponding pixel is electrically connected to the same photosensitive portion of each of the other corresponding pixels.

5   4.   The image density detecting device according to Claim 3, wherein the photodetecting means comprises:

a first signal processing circuit, reading the output from each of the photosensitive portions that are electrically connected across each the plurality of pixels aligned in the first direction to detect the

10   luminance profile in the second direction of the two-dimensional array based on these outputs, and

a second signal processing circuit, reading the output from each the photosensitive portions that are electrically connected across each of the plurality of pixels aligned in the second direction to detect the

15   luminance profile in the first direction of the two-dimensional array based on these outputs.

5.   A multiple image forming device comprising:

a plurality of image forming units, respectively forming different images for forming a multiple image;

20   the multiple image forming position deviation detecting device according to Claim 1; and

wherein the deviations of the transfer positions of the images, respectively formed by the image forming units, are detected by means of the multiple image forming position deviation detecting device.

25   6.   A multiple image forming device comprising:

a plurality of image forming units, respectively forming different

images for forming a multiple image;

the image density detecting device according to Claim 3, and

wherein the densities of the images, respectively formed by the image forming units, are detected by means of the image density

5   detecting device.